## AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) Modified ~~perfluoroplastics~~ perfluoroplastic, comprising ~~perfluoropolymers~~ a perfluoropolymer including a surface modified under ~~the~~ influence of oxygen radiation-chemically or plasma-chemically, the ~~surfaces of which~~ surface simultaneously ~~have~~ having –COOH and/or–COF groups and reactive perfluoroalkyl-(peroxy-) radical centers, ~~whereby~~ and additional low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers or mixtures thereof are coupled via some or all of the groups and/or to some or all of the centers.

2. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 1, ~~in which~~ wherein the perfluoropolymer is radiation-chemically modified under ~~the~~ influence of oxygen.

3. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 2, ~~in which~~ wherein the perfluoropolymer is radiation-chemically modified with a radiation dose of more than 50 kGy.

4. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 2, ~~in which~~ wherein the perfluoropolymer is radiation-chemically modified with a radiation dose greater than 100 kGy.

5. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 1, ~~in which PTFE~~ wherein the perfluoropolymer is polytetrafluoroethylene ~~PTFE is used as perfluoropolymer~~.

6. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 1, ~~in which~~ wherein the following coupling reactions are radical reactions and/or substitution reactions and/or addition reactions.

7. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 6, ~~in which~~ wherein olefinically unsaturated monomers and/or olefinically unsaturated oligomers or olefinically unsaturated polymers are coupled to the reactive perfluoroalkyl-(peroxy-) radical centers through (co-) polymerization and/or through grafting.

8. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 6, ~~in which substance(s) are~~ wherein at least one substance is coupled to ~~the~~ ester and/or amide bonds formed via reactions with the –COOH and/or –COF groups.

9. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 8, ~~in which~~ wherein at least one additional functional group is bonded to the ~~substance(s) that are~~ at least one substance coupled via ester and/or amide bonds.

10. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 6, ~~in which~~ wherein via reactions with the –COOH- and/or –COF groups, aliphatic amino compounds and/or aromatic amino compounds and/or alkylaryl-amino compounds are coupled to at least one further primary and/or secondary amino group or at least one further reactive or reactively modifiable or reactively activatable functional group.

11. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 10, ~~in which~~ wherein as further reactive or reactively modifiable or reactively activatable functional group carboxylic acid anhydride, carboxylic acid anhydride derivative, which can also be recycled as dicarboxylic acid and/or carbonic half-ester compound to anhydride, -COOH, -CO-halogen, -COOR, -CO-OOR, -O-CO-OR, $-SO_3H$, $-SO_2NRR^*$, $-SO_2N_3$, $-SO_2$-halogen, aliphatic and/or aromatic –OH, aliphatic and/or aromatic –SH, (meth-)acrylic ester, allyl and other olefinically unsaturated polymerizable compounds and/or polymers, cyanohydrin, -NCO, -NH-CO-OR, -NH-CS-OR, $-NR^*-CO-NR^{**}R^{***}$, $-N^*-CS-R^{**}R^{***}$, -CHO, -COR are coupled, ~~whereby~~ and R, R*, R** and/or R*** ~~mean~~ are alkyl-$X_m$, aryl-$X_n$ or alkyaryl-$X_O$, or ~~whereby~~ R, R*, R** and/or R*** bonded to N ~~can also mean~~ are H, and ~~whereby~~ X ~~mean~~ is the same or also different functional groups and with m, n and o ~~mean with~~ being numbers greater ~~than/equal~~ than or equal to 0.

12. (Currently Amended) ~~Modified perfluoroplastics~~ The modified perfluoroplastic according to claim 6 ~~in which~~ wherein olefinically unsaturated monomers and/or olefinically unsaturated oligomers or olefinically unsaturated polymers are coupled to the reactive perfluoroalkyl-(peroxy-) radical centers by (co-)polymerization and/or by grafting and ~~substance(s) are~~ at least one substance is coupled to ~~the~~ ester and/or amide bonds produced via reactions with the –COOH and/or –COF groups and via reactions with the –COOH- and/or –COF groups, aliphatic amino compounds and/or aromatic amino compounds and/or alkylaryl-amino compounds are coupled to at least one further primary and/or secondary amino group or at least one further reactive or reactively modifiable or reactively activatable functional group.

13. (Currently Amended) Method for producing a modified ~~perfluoroplastics according to at least one of claims 1 through 12, in which~~ perfluoroplastic comprising a perfluoropolymer including a surface modified under influence of oxygen radiation-chemically or plasma-chemically, the surface simultaneously having –COOH and/or–COF groups and reactive perfluoroalkyl-(peroxy-) radical centers, and additional low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers or mixtures thereof are coupled via some or all of the groups and/or to some or all of the centers, the method comprising reacting a perfluoropolymer ~~perfluoropolymers~~ that is radiation-chemically or plasma-chemically modified under ~~the~~ influence of oxygen, which perfluoropolymers simultaneously exhibit –COOH and/or –COF groups and reactive perfluoroalkyl-(peroxy-) radical centers, ~~are reacted~~ with low-molecular and/or oligomeric and/or polymeric substances and/or olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers by ~~means of~~ substitution reactions and/or by ~~means of~~ addition reactions and/or by ~~means of~~ radical reactions.

14. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the ~~perfluoropolymers are~~ perfluoropolymer is radiation-chemically modified.

15. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the ~~perfluoropolymers are~~ perfluoropolymer is radiation-chemically modified with a radiation dose greater than 50 kGy.

16. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the ~~perfluoropolymers are~~ perfluoropolymer is radiation-chemically modified with a radiation dose greater than 100 kGy.

17. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which as~~ wherein the perfluoropolymer comprises PTFE ~~is used~~ in compact or powder form.

18. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the radiation-chemically modified perfluoropolymer powder is treated through subsequent tempering at low temperatures yielding the –COF groups and the reactive perfluoroalkyl-(peroxy-)radical centers.

19. (Currently Amended) ~~Method~~ The method according to claim 18, ~~in which~~ wherein the radiation-chemically modified perfluoropolymer powder is treated by subsequent tempering with humid air.

20. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the radiation-chemically modified perfluoropolymer is reacted with reactive perfluoroalkyl-(peroxy-) radical centers with olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers.

21. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the –COOH and/or –COF groups are reacted at temperatures >150°C with low-molecular and/or oligomeric and/or polymeric substances that contain primary and/or secondary amino groups and/or hydroxy groups and/or amide groups and/or urea groups and/or isocyanate groups and/or blocked/protected isocyanate groups and/or urethane groups and/or uretdione groups, with at least one other functional group in the (macro-) molecule, which are capable of chemical consecutive reactions.

22. (Currently Amended) ~~Method~~ The method according to claim 21, ~~in which~~ wherein the –COOH and/or –COF groups are reacted at temperatures >150°C in a reaction with low-molecular and/or oligomeric and/or polymeric substances that contain primary and/or secondary amino groups and/or hydroxy groups, with at least one other functional group in the (macro-) molecule, which are capable of chemical consecutive reactions.

23. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the –COOH and/or –COF groups are reacted at temperatures >150°C in a reaction with low-molecular and/or oligomeric and/or polymeric substances that contain hydroxy groups and/or epoxy groups, with at least one other functional group in the (macro-) molecule, which are capable of chemical consecutive reactions.

24. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the –COF groups are reacted with a lactam compound or an alcohol compound.

25. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the –COOH and/or –COF groups are reacted at temperatures ≥ 200°C with low-molecular and/or oligomeric and/or polymeric substances that contain amide groups and/or urea groups and/or isocyanate groups and/or blocked/protected isocyanate groups and/or urethane groups and/or uretdione groups, with at least one other functional group in the (macro-) molecule, which are capable of chemical consecutive reactions.

26. (Currently Amended) ~~Method~~ The method according to claim 13, ~~in which~~ wherein the radiation-chemically modified perfluoropolymer powder is reacted with reactive perfluoroalkyl-(peroxy-)radical centers with olefinically unsaturated monomers and/or olefinically unsaturated oligomers and/or olefinically unsaturated polymers, and the –COOH and/or –COF groups are reacted at temperatures > 150°C with low-molecular and/or oligomeric

and/or polymeric substances that contain primary and/or secondary amino groups and/or hydroxy groups and/or amide groups and/or urea groups and/or isocyanate groups and/or blocked/protected isocyanate groups and/or urethane groups and/or uretdione groups, with at least one other functional group in the (macro-)molecule, which are capable of chemical consecutive reactions, or the –COOH and/or –COF groups are reacted at temperatures > 150°C in a reaction with low-molecular and/or oligomeric and/or polymeric substances that contain hydroxy groups and/or epoxy groups, with at least one other functional group in the (macro-)molecule, which are capable of chemical consecutive reactions, or the –COF groups are reacted with a lactam compound or an alcohol compound.